

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE Aug-99		3. REPORT TYPE AND DATES COVERED Final Report: 20 Mar 97 thru 20 Aug 97
4. TITLE AND SUBTITLE Research and Evaluation of Modernization Through Spares			5. FUNDING NUMBERS	
6. AUTHOR(S) Gary A. Maddux				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Univ. of Alabama in Huntsville Huntsville, AL 35899			8. PERFORMING ORGANIZATION REPORT NUMBER 5-34731	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) AMSAM-RD-SE-IO (T. MULLINS) U.S. Army Aviation & Missile Command Redstone Arsenal, AL 35898			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution is unlimited.			12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 words) The Systems Engineering and Production Directorate at U.S. Army Missile Command (MICOM) was investigating "modernization through spares" initiatives to support advanced missile applications. It was essential that the Army achieve a common understanding of current modernization techniques through a coordinated policy of spare parts and components so that potential applications could be identified and implementation plans could begin. UAH was contracted to assist in this investigation.				
14. SUBJECT TERMS modernization through spares			15. NUMBER OF PAGES 2	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

19991004 024

PLEASE CHECK THE APPROPRIATE BLOCK BELOW

DAO# _____

☐ _____ copies are being forwarded. Indicate whether Statement A, B, C, D, E, F, or X applies.

☒ DISTRIBUTION STATEMENT A:
APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED

☐ DISTRIBUTION STATEMENT B:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES
ONLY; (indicate Reason and Date). OTHER REQUESTS FOR THIS
DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).

☐ DISTRIBUTION STATEMENT C:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND
THEIR CONTRACTS (Indicate Reason and Date). OTHER REQUESTS
FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).

☐ DISTRIBUTION STATEMENT D:
DISTRIBUTION AUTHORIZED TO DoD AND U.S. DoD CONTRACTORS
ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO
(Indicate Controlling DoD Office).

☐ DISTRIBUTION STATEMENT E:
DISTRIBUTION AUTHORIZED TO DoD COMPONENTS ONLY; (Indicate
Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).

☐ DISTRIBUTION STATEMENT F:
FUTHER DISSEMINATION ONLY AS DIRECTED BY (Indicate Controlling DoD Office
and Date) or HIGHER DoD AUTHORITY.

☐ DISTRIBUTION STATEMENT X:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES
AND PRIVATE INDIVIDUALS OR ENTERPRISES ELIGIBLE TO OBTAIN EXPORT-CONTROLLED
TECHNICAL DATA IN ACCORDANCE WITH DoD DIRECTIVE 5230.25. WITHHOLDING OF
UNCLASSIFIED TECHNICAL DATA FROM PUBLIC DISCLOSURE, 6 Nov 1984 (indicate date of
determination). CONTROLLING DoD OFFICE IS (Indicate Controlling DoD Office).

☐ This document was previously forwarded to DTIC on _____ (date) and the
AD number is _____.

☐ In accordance with provisions of DoD instructions. The document requested is not supplied because:

☐ It will be published at a later date. (Enter approximate date, if known).

☐ Other. (Give Reason)

DoD Directive 5230.24, "Distribution Statements on Technical Documents," 18 Mar 87, contains seven distribution statements, as described briefly above. Technical Documents must be assigned distribution statements.

GARY A MADDUX

Print or Type Name

Gary A Maddux
Authorized Signature/Date

256 890 6343 x223

Telephone Number

Technical Report 5-34731
Contract No. DAAH01-92-D-R006
Delivery Order No. 121

**Research and Evaluation of
Modernization Through Spares**

(5-34731)

Final Technical Report for Period
20 March 1997 through 20 August 1997

August 1999

Prepared by:

Gary A. Maddux

Systems Management and Production Lab
Research Institute
The University of Alabama in Huntsville
Huntsville, Alabama 35899

Prepared for:

U.S. Army Missile Command
Redstone Arsenal, AL 35898
Attn.: Mr. Terry Mullins

PREFACE

This technical report was prepared by the staff of the Research Institute, The University of Alabama in Huntsville. The purpose of this report is to provide documentation of the work performed and results obtained under Delivery Order 121 of MICOM Contract No. DAAH01-92-D-R006. Mr. Gary Maddux was the principal investigator. Mr. Terry Mullins, Industrial Operations Division, Systems Engineering and Production Directorate, Research, Development, and Engineering Center, U.S. Army Missile Command, provided technical coordination.

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision unless so designated by other official documentation.

Except as provided by the Contract Data Requirements List DD Form 1423, hereof, the distribution of any contract report in any state of development or completion is prohibited without the approval of the Contracting Officer.

Prepared for: Commander
U.S. Army Missile Command
Redstone Arsenal, AL 35898

I have reviewed this report, dated August 99 and the report contains no classified information.

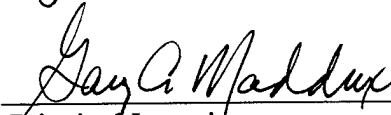

Principal Investigator

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	OBJECTIVES	1
3.0	STATEMENT OF WORK	1
4.0	DESCRIPTION OF WORKSHOP.....	2
5.0	CONCLUSIONS AND RECOMMENDATIONS	2

1.0 Introduction

The Systems Engineering and Production Directorate (SEPD), Research, Development and Engineering Center (RDEC) at U.S. Army Missile Command (MICOM) was investigating "modernization through spares" initiatives to support advanced missile applications. It was essential that the Army achieve a common understanding of current modernization techniques through a coordinated policy of spare parts and components so that potential applications could be identified and implementation plans could begin.

The Systems Management and Production Laboratory at The University of Alabama in Huntsville (UAH) Research Institute (RI) was tasked to provide engineering support and analytical capability.

2.0 Objective

The objective of this task was to evaluate the methodologies associated with modernization through spares and establish guidelines for achieving the goals of this initiative throughout the Army. This task involved an initial evaluation to establish the state-of-the-art and maturity of modernization processes and procedures, and identification of the key players within DoD, other government agencies, and the defense contractor industry.

3.0 Statement of Work

The statement of work, as outlined in delivery order 121, was as follows:

UAH shall perform an initial evaluation of modernization through spares methodologies developed throughout the Department of Defense. This evaluation will include personal technical interaction with key personnel and companies knowledgeable in the subject of modernization through spares. This evaluation will culminate with recommendations as to the applicability of engineering presentations and interactions to expand the knowledge base related to MICOM activities.

UAH shall develop a database which lists the key personnel and companies knowledgeable in modernization through spares, to include integration methodologies and technology applications related to missile systems. UAH shall survey government, industry and academia to identify key personnel and companies.

UAH shall coordinate and provide administrative support for a detailed technical workshop to present the findings of the above research. On-site support shall include speaker coordination, audio/visual support, proceedings creation, and all attendee registration activities.

UAH shall perform a preliminary investigation prior to Paragraph 2.3 (the above paragraph) to determine the impacts of dimensioning manufacturing sources and material shortages (DMSMS) on the modernization through spares concept. This investigation will include the coordination of and participation in a detailed workshop with the project offices, contractors, and other DoD agencies.

4.0 Description of Workshops

The work performed on this task led directly to the Workshop on Modernization Through Spares, which was held at the Sparkman Center Auditorium on May 28-29, 1997. The objective of this workshop was to review the progress of the modernization through spares initiative. The scope of the workshop included value engineering, OSCR, CTIP, commercialization, specs and standards, design criteria, logistics sustainment, parts obsolescence and CAIV. MICOM was the primary sponsoring agency of this workshop. A Workshop Proceedings was delivered to the Government and all attendees on CD-ROM.

5.0 Conclusion and Recommendations

During the time frame allocated by the delivery order, members of the UAH Applied Research Program, with the cooperation of representatives from MICOM SEPD, performed an analysis and evaluation of the modernization through spares initiative. Results of these efforts were presented at a locally held workshop. Detailed findings can be found in the proceedings of that workshop, which was compiled by UAH and delivered on CD-ROM.